

What is claimed is:

5 *Sub*
1. A method for determining an order of allocating electric vehicles for use depending on different charge levels of the vehicles, comprising the steps of having a user enter an expected distance of an intended trip; selecting a group of vehicles having charge levels which are adequate for covering said expected distance of an intended trip; and allocating a vehicle having a highest level of charge in the selected group.

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5 5. A method as recited in claim 2, wherein said step of receiving a travel request comprises receiving information associated with an expected destination port and an expected distance of travel beyond a direct route to the destination port and wherein said step of selecting a group comprises selecting one or more vehicles, each with a sufficient SOC to travel the combined distance of the direct route to the destination port and expected distance of travel beyond the direct route.

10 6. A method as recited in claim 2, further comprising the step of identifying the allocated vehicle to the user.

15 7. A method as recited in claim 6, wherein said step of identifying the allocated vehicle to the user comprises displaying identification information to the user on a display device.

20 8. A method as recited in claim 2, wherein said step of receiving a travel request comprises:
displaying a map to the user; and
receiving user-selected map locations corresponding to locations on the displayed map through a user-interface associated with the displayed map.

25 9. A method for allocating one or more vehicles from a fleet of electric powered vehicles to one or more users, wherein each vehicle has a state of charge (SOC) at any given time, the method comprising:
providing a user-interface terminal at one or more ports;
receiving travel request information from a user at a user-interface terminal and communicating the travel request information to a computer;
operating the computer to select a group of one or more vehicles from the fleet, where each selected vehicle has an SOC sufficient to meet the travel request information from the user;
and
30 operating the computer to allocate the vehicle in the group having the highest SOC for the

~~user.~~

10. A method as recited in claim 9, wherein said step of receiving travel request information comprises receiving information associated with an expected distance of travel and wherein said step of operating the computer to select a group comprises selecting one or more vehicles, each with a sufficient SOC to travel the expected distance.

11. A method as recited in claim 9, wherein said step of receiving travel request information comprises receiving information associated with an expected time period of use and wherein said step of controlling the computer to select a group comprises selecting one or more vehicles, each with a sufficient SOC to travel for the expected time period.

12. A method as recited in claim 9, wherein said step of receiving travel request information comprises receiving information associated with an expected destination port and an expected distance of travel beyond a direct route to the destination port and wherein said step of operating the computer to select a group comprises selecting one or more vehicles, each with a sufficient SOC to travel the combined distance of the direct route to the destination port and expected distance of travel beyond the direct route.

13. A method as recited in claim 9, further comprising the step of displaying vehicle identification information on a display device at the port facility from which travel information is received, identifying the vehicle allocated to the user.

14. A method as recited in claim 9, wherein:
said step of providing a user-interface terminal at one or more ports comprises providing a user-interface at a plurality of ports disposed at geographically remote locations relative to each other;

each port has a vehicle search group (VSG) in which more than one and less than all of the vehicle from the fleet may be located at any given time; and

said step of operating the computer to select a group of one or more vehicles from the fleet comprises selecting a group from the VSG of the port from which travel information is received.

15. A method as recited in claim 14, wherein the VSG of any given port includes vehicles parked at a parking facility at the port.

5 16. A method as recited in claim 15, wherein the VSG of any given port further includes vehicles due to arrive at the port within a preset time period.

10 17. A method as recited in claim 16, wherein the VSG of any given port further includes vehicles due to become sufficiently charged at the port within a preset time period.

18. A method as recited in claim 15, wherein the VSG of any given port further includes vehicles due to become sufficiently charged at the port within a preset time period.

15 19. A method for allocating one or more vehicles from a fleet of electric powered vehicles to one or more users, wherein each vehicle has a state of charge (SOC) at any given time and the rate at which any given vehicle within can be charged is dependent upon the SOC of the vehicle wherein a plot of the SOC of the vehicle being charged versus time defines a generally linear region at lower SOC levels and a nonlinear region at higher SOC levels, the method comprising:

20 receiving a travel request from a user;
selecting a group of one or more vehicles from the fleet, where each selected vehicle has a SOC sufficient to meet the travel request from the user; and
allocating any vehicle within the group having an SOC within the nonlinear region and, if no vehicles within the group have an SOC within the nonlinear region, then allocating the vehicle
25 ~~within the group having the highest SOC for the user.~~

20. A vehicle allocation system for allocating one or more vehicles from a fleet of electric powered vehicles to one or more users, wherein each vehicle has a state of charge (SOC) at any given time, the vehicle allocation system comprising:

one or more ports at geographically remote locations relative to each other, each port having a user-interface terminal for receiving a travel request from a user;

a computer system coupled in communication with at least one user-interface terminal and programmed to respond to a travel request received from a user, for selecting a group of one or more vehicles from the fleet, where each selected vehicle has an SOC sufficient to meet the travel request from the user, said computer system being further programmed to allocate the vehicle having the highest SOC in the group for the user.

21. A system as recited in claim 20, wherein said computer system comprises a central station computer system coupled in communication with a plurality of user-interface terminals at a plurality of said ports.

22. A system as recited in claim 20, wherein said travel request comprises information associated with an expected distance of travel and wherein said group comprises one or more vehicles, each with a sufficient SOC to travel the expected distance.

23. A system as recited in claim 20, wherein said travel request comprises information associated with an expected time period of use and wherein said group comprises one or more vehicles, each with a sufficient SOC to travel for the expected time period.

24. A system as recited in claim 20, wherein said travel request comprises information associated with an expected destination port and an expected distance of travel beyond a direct route to the destination port and wherein said group comprises one or more vehicles, each with a sufficient SOC to travel the combined distance of the direct route to the destination port and expected distance of travel beyond the direct route.

25. A system as recited in claim 20, wherein each port is provided with a display device for displaying identification information, identifying an allocated vehicle to a user.

5 26. A system as recited in claim 20, wherein each of user-interface terminals comprises a display device for displaying a map to the user and an user/display interface for receiving user-selected map locations corresponding to locations on the displayed map from a user.

10 27. A system as recited in claim 21, wherein:
each port has a vehicle search group (VSG) in which more than one and less than all of the vehicles from the fleet may be located at any given time; and
said computer is programmed to select a group of one or more vehicles by selecting a group from the VSG of the port from which travel information is received.

15 28. A system as recited in claim 27, wherein each port includes a vehicle parking facility at which one or more vehicles may be parked at any given time and the VSG of a given port includes vehicles parked at a parking facility at the port.

20 29. A system as recited in claim 28, wherein each port includes at least one vehicle charging facility and the VSG of a given port further includes vehicles due to become sufficiently charged at the port within a preset time period.

25 30. A system as recited in claim 28, wherein the VSG of a given port further includes vehicles due to arrive at the port within a preset time period.

31. A system as recited in claim 30, wherein each port includes at least one vehicle charging facility and the VSG of a given port further includes vehicles due to become sufficiently charged at the port within a preset time period.

32. A system as recited in claim 20, further comprising a plurality of vehicle subsystems associated on a one-to-one basis with the vehicles from the fleet, each vehicle subsystem including means for detecting the SOC of its associated vehicle and for transmitting information corresponding to the detected SOC to the computer system.

33. A system as recited in claim 20, wherein the request includes user identification information and wherein said computer system is programmed to further base the vehicle selection on the user identification information.

34. A system as recited in claim 33, wherein said computer system includes a storage of vehicle preference information associated with each user identification and is programmed to retrieve from storage vehicle preference information associated with user identification information received from a port terminal and to further base the vehicle selection on the vehicle preference information.

35. A system as recited in claim 34, wherein the vehicle preference information comprises information from the group consisting of: number of vehicle wheels, number of vehicle doors, preferred minimal SOC or range of SOC's, distance usually traveled, and usual duration of vehicle use.